

JANUARY 2024

THE INNOVATION CATALYST

NEWSLETTER



HQ Town Hall Celebrates 2023

See page 2

NASA Administrator Bill Nelson gives remarks during a NASA town hall event, as NASA Deputy Administrator Pam Melroy, NASA Associate Administrator Bob Cabana, and NASA Deputy Associate Administrator Casey Swails look on, Tuesday, Dec. 12, 2023, at the NASA Headquarters Mary W. Jackson Building in Washington. Photo Credit: NASA/Bill Ingalls

INSIDE THIS ISSUE

- HQ Town Hall
- Year in Review
- Chamber of Commerce
- Congressional Bill

EVENTS



Byte Sized Talks

Wednesday January 24, 2024

12:00 PM - 1:00 PM

Join us in the building 21 cafeteria for a refreshing twist on the traditional lunch-and-learn format!

This month's Tech Transfer Tip with the Strategic Partnerships Office (SPO) team

Our New Year's resolution for 2024 is: we hope to do a better job of showing our Goddard innovators that SPO can be a key partner in the development of new technologies to study Earth, the Sun, our solar system, and the universe. Through filing a New Technology Report (NTR) and licensure, we hope that these new innovations will provide quality opportunities for our commercial partners to develop new products that will enhance everybody's quality of life.



2024 HAPPY NEW YEAR

NP-2024-1-201-GSFC



NASA Administrator Bill Nelson gives remarks during a NASA town hall event, Tuesday, Dec. 12, 2023, at the NASA Headquarters Mary W. Jackson Building in Washington. Photo Credit: NASA/Bill Ingalls

NASA Town Hall Celebrates 2023 Achievements

Technology Transfer and Partnerships Highlight the Event

The year 2023 will be remembered as the year NASA reached incredible milestones, conquered challenges, and soared to new heights. In 2023, NASA sent a spacecraft to study a metal-rich asteroid for the first time and delivered samples back to Earth. The agency launched multiple initiatives to share climate data and advanced developments in sustainable aircraft, all the while continuing preparations to send the first Artemis mission astronauts to the Moon. Plus, Frank Rubio became the first American astronaut to spend more than one year in space. That is only the beginning.

“This year, NASA continued to make the impossible possible while sharing our story of discovery with the world,” said NASA Administrator Bill Nelson. “We’ve launched missions that are helping tell the oldest stories of our solar system; continued to safely transport astronauts to the International Space Station to conduct groundbreaking science. Our Earth satellites are providing critical climate data to all people; we’re making great strides to make aviation more dependable and sustainable; and we’re growing our commercial and international partnerships as we venture back to the Moon and on to Mars. NASA is home to the world’s finest workforce, and there is no limit to what we can achieve when we work together.”

To celebrate NASA’s accomplishments over the past year and to share the path forward in 2024 and beyond, NASA leadership held a Town Hall at its Washington DC downtown headquarters on December 12. Nelson, along with Deputy Administrator Pam Melroy, Associate Administrator Bob Cabana, and Deputy Associate Administrator Casey Swail shared their collective pride in what NASA has achieved over the past year and paid gratitude to the entire agency workforce who made that happen.

“When world leaders visit the United States, where do you think they want to come?” Nelson asked the live audience and 13,000 employees who watched virtually. “NASA, and that is because of you all; you are the best of what we do. And nations around the world want to explore the universe with us. They want that magic of NASA.”



NASA Deputy Administrator Pam Melroy gives remarks during a NASA town hall.
Photo Credit: NASA/Bill Ingalls

The crew of the Artemis II mission to the Moon made a special pre-recorded video appearance. They were joined by Academy Award-winning actor Tom Hanks who said, “All of these fantastic accomplishments [in 2023] are really about you. It is the hard work that you put in every day that makes those achievement happen. And I know that you will continue to amaze us and exceed our wildest expectations in 2024.”

“We are working towards launching the first crewed Artemis mission,” said Melroy, who told the audience about the NASA missions ahead. “It is really astounding to me that we are training the first crew to go beyond Earth’s orbit in more than 50 years. And I know from experience that it is not just about [Artemis II astronauts] Reid [Wiseman], Victor [Glover], Christina [Koch], and Jeremy [Hansen]. it is about all of us going on a journey. We are all doing this together for the first time in more than 50 years. And it is incredible.”

The question-and-answer portion of the Town Hall became the perfect opportunity for NASA leadership to address partnerships and technology transfer. Leadership was asked about its vision of partnerships and technology transfer, and how and why that is important to ongoing and future NASA missions. Nelson began by describing the “profound difference” between the Apollo mission, which went to the Moon a half a century ago as the United States government alone, and Artemis. Today, he said, NASA is returning to the Moon with both international and commercial partners.

“Partnerships bring us all kinds of advantages,” stressed Nelson. “These include the additional creativity and ideas that come out of partnerships and the additional resources that come out of partnerships. So, partnerships for the future are essential for us.”

Referencing Vannevar Bush’s 1945 book, *The Endless Frontier*, Melroy touched upon the importance of technology transfer at NASA. She noted that, because the pace of technology is moving so fast, “it is the role of government to invest in advanced technology and early-stage science and then develop it to the point where it can transition to a commercial capacity.” Bush, an American engineer, inventor, and space administrator, who worked in the Roosevelt and Truman administrations, emphasized that engineers and scientists cannot rely on that happening organically.

“I can’t tell you how important technology transfer is,” said Melroy. “Technologists and futurists only see the future through a glass darkly. And what that means is that we don’t actually know where the technology development that we do is going. We don’t always see the path that it follows. Even when we are discouraged, and it looks like something is sitting on the shelf, it usually finds a way, or at least the lesson learned from the tech development finds a way, and I have seen that.”

Melroy felt the question about NASA’s vision of technology transfer “touched upon important point.” How does NASA do more technology transfer? She said, “I am really happy to say that this is something that creatively we’ve [at the leadership level] talked about, how to work together to make sure that those tech transitions are happening effectively. Technology transfer is definitely going to be a focus area for the future.”

The Town Hall concluded with leadership collectively stating that 2024 is going to be an exciting year and there are going to be a lot of missions to look forward to. “While our missions are exciting, your dedication to them are just so inspiring for us to see every day,” Nelson told the audience. “I am incredibly thankful for what we’ve achieved together so far, and I’m excited about the incredible journey that lies ahead.”



STRATEGIC
PARTNERSHIPS OFFICE

*“ 2023 was a
good year, but
2024 is going to
be even better! ”*

~ SPO Chief Darryl Mitchell

SPO Year in Review

In 2023, engineers and scientists at NASA Goddard developed all kinds of technologies to solve challenges from exploring space to advancing our understanding of Earth, and viewing the formation of the first galaxies and potential habitable exoplanets. Often, those same inventions have other untapped applications in other areas. Through patent licensing with the Strategic Partnership Office (SPO), many of those technologies will be transformed into commercial products to be used for a completely different application.

Over the past fiscal year, 167 New Technology Reports (NTRs) have been filed, 19 patents have been issued by the United States Patent and Trademark Office (USPTO) and seven license agreements have been concluded with private industry. While the numbers are historically similar with what Goddard experienced in the pre-pandemic world, it marks an improvement over 2022, when the center only issued four commercial licenses. SPO Chief Darryl Mitchell believes that Goddard is now on a path toward issuing between 20 to 25 licenses a year.

“We had our ups and downs in 2023,” said Mitchell, “but it was plain from when Dr. Makenzie Lystrup become center director in the spring, that partnerships and tech transfer are important, and we need to do what we can to be as effective as we possibly can. That resulted in SPO reevaluating and changing how we operate. We are not only doing things better but have made filing an NTR and applying for a patent with USPTO a more friendly and more transparent experience. With the steps that we have taken and the support from our center leadership team, I think the number of licenses should climb.”

“We want to focus on more technology development, but we are not going to be able to do more without partnering more,” said Lystrup. “That means making smart choices about tech transfer and what we are putting out to industry. That is one reason partnerships are so important.”

Mitchell credits the rebuilding of SPO’s marketing effort to reach Goddard’s target audience – through banners, in-reach campaigns, roadshows, and publications – as a big reason there is greater awareness among engineers and scientists to file an NTR. “By using tools to let us track and see objectively if what we are doing is working or not, I think the marketing team has done a good job of finding new creative ways to reach our target audience,” Mitchell said. “Folks are starting to get the idea of how technology transfer works. That is not trivial.”

Another highlight for both SPO and Goddard in 2023 was NASA awarding the prestigious NASA Software of the Year Award (SOYA) to a team of scientists and engineers at the center’s Earth Sciences Division (Code 610). This is only the second time in the past 17 years that a team from Goddard has won the SOYA. SOYA is NASA’s highest commendation for software excellence. The award is annually presented by NASA’s Inventions and Contributions Board to “NASA-de-

continued on page 5



2023 I.D.E.A. Awards, Strategic Partnerships Office Chief, Darryl Mitchell. Photo Credit: N4 Solutions

continued from page 4

veloped software that has significantly enhanced the agency’s performance of its mission and helped American industry maintain its world-class technology status.” SPO put together the application package.

The Goddard team received the SOYA award for developing a data-driven software tool called the Landslide Hazard Assessment for Situational Awareness (LHASA) version 2.0. This tool is designed to provide situational awareness for rainfall-triggered landslide hazard events at any location around the world.

“I think LHASA represents an important step toward helping communities understand where and when landslide hazards happen all over the world,” said Dalia Kirschbaum, director of the Earth Science Division. “I hope that people take this model and use it regionally to get a better understanding of what is triggering landslide hazards in their area.”

As SPO looks ahead to 2024, one of the exciting partnership opportunities the center is exploring is the development of an a high-tech business park near the main gate of the Goddard campus. This potentially could mean developing something similar to the Wallops Research Park located adjacent to the Wallops Space Flight Center, or similar to the commercial real estate partnership developed with Rocket Lab, which also built its Launch Complex 2 at Wallops.

“This may include things like moving the fence line at Goddard so that we can have commercial entities that can take advantage of the land that we have to build facilities and Goddard being able to share those facilities,” explained Dr. Christyl Johnson, Goddard’s deputy director for technology and research investments. “The advantage of this means we would have very close access to private facilities and be able work on joint missions. It is about utilizing unused land or some of our facilities and providing the opportunity for private industry to take them over or lease them. This is a very different approach to the way that we have done things here at the Greenbelt Campus in the past.”

“This partnership could take the form of developing an entire park or a single building—or it could just be space to get together to discuss things and meet, but we are trying to take an innovative approach,” added Mitchell. “There is a lot of interest both internally and outside at various levels. People are taking this seriously and pursuing it to try and see if we can make it work.”

As Goddard moves into 2024, Mitchell believes technology transfer and partnerships are on an upswing. Working along with the Office of General Counsel, there is a greater sense that engineers and scientists within the Goddard community understand how technology transfer works and why it is important.

“I think we had a good year behind us but looking forward I think we have a great year ahead of us,” said Mitchell. “It’s all about us rising to the occasion to take advantage of the opportunities that have come to us. I think at Goddard anyway, it is an unprecedented environment for technology transfer and partnering. Certainly, in the time that I have been here, I don’t think that partnerships and licensing have ever quite received the level of support from leadership that we have right now. I think that is what will give us the opportunity to really shine.”



Aerial view of NASA's Goddard Space Flight Center in Greenbelt, Maryland, in 2010. Photo Credit: NASA Goddard/Bill Hrybyk

Maryland Business Leaders Visit Goddard to Seek Partnerships

As state and local leaders throughout Maryland seek to spur economic development, attract new businesses, stimulate private investment, and encourage business expansion, they are now looking to NASA Goddard for partnership opportunities. On December 12, Strategic Partnership Office (SPO) Chief Darryl Mitchell played host to a delegation of 17 state and local business leaders organized by the Anne Arundel and Prince George's County Chamber of Commerce. The group, which included business leaders from multiple counties, wanted to know how businesses can partner with Goddard and take advantage of technology transfer opportunities. The delegation also included officials from the Maryland Department of Labor.



Strategic Partnerships Office Chief, Darryl Mitchell. Photo Credit: Prince Georges County Economic Development Corporation (PGEDC)

As the home of the nation's largest organization of engineers and scientists who build spacecraft, instrumentations, and new technology to study the Earth, the Sun, our solar system and the universe, Mitchell shared with the delegation an overview of what Goddard does and how that relates to small businesses. Speaking at the Goddard Visitors Center theatre, Mitchell found the distinguished guests who represented business owners, local and state government officials, or economic development organizations, very engaged and interested in partnering with the agency.

"I shared with them what SPO does and talked a little bit about tech transfer and SBIR/STTR (Small Business Innovation Research/Small Business Technology Transfer) programs and how they work," said Mitchell. "I also let them know there are lot of different opportunities to partner and work with Goddard and they are not all science and engineering related."

Mitchell explained that meeting and speaking with interested business leaders in an informal setting for the first time is usually the first step to laying the groundwork for potential partnerships. "This is basically how partnerships happen for the most part. You do it through networking and chance encounters," said Mitchell. "In fact, there was one government official from Howard County, who made sure she got a business card from me so people from the county would have a name and number to talk with in the future."

At the conclusion of his presentation and welcome address, the visitors were given a tour of the campus and some of its facilities. "I felt that it was a positive experience for our guests, and they genuinely seemed interested in partnering with Goddard," said Mitchell. "I found when I specifically emphasized partnering with Goddard, there were a lot of smiles and head nodding."



U.S. Capitol Dome, Washington, D.C./Library of Congress. Photo Credit: Royalty Free Image

Members of Congress Introduce Bill to Cultivate Partnerships Between NASA and Private Industry

To foster partnerships between NASA and the aerospace industry, Senators Sherrod Brown [D-OH] and Marco Rubio [R-FL] and Representatives Emilia Sykes [D-OH-13] and Max Miller [R-OH-7] introduced the NASA Talent Exchange Program Act on December 13. The Act would temporarily assign NASA employees to private industry positions and alternately assign industry professionals into short term NASA positions. The proposed legislation will also establish the Public Private Talent Exchange Program (PPTE) within NASA to further encourage partnership opportunities between government and aerospace businesses.

“From Apollo to Artemis, space exploration is fueled by NASA’s ingenuity and the dynamism of its private sector partners,” said Rubio in a statement. “I am proud to introduce the NASA Talent Exchange Program Act to continue cultivating vital partnerships to unlock the potential of American innovation.”

PPTE would be a professional development program focused on giving NASA and industry professionals an opportunity to gain exposure and experience in several areas. The exchanges will last for three months up to two years, with options to extend for an additional year. The program is modeled after a similar initiative that the Department of Defense (DoD) has operated since 2018. That program allowed the DoD to forge partnerships with private sector companies and swap business practices for the betterment of both parties.

“Our bill will allow NASA to better fulfill its missions by authorizing a public-private talent exchange program,” said Sykes in a statement. “NASA and private industry professionals will have the chance to exchange technical expertise and operational best practices and ensure that America’s space and aerospace industry remains the best and most innovative in the world.”